

OFFICE OF TECHNOLOGY TRANSFER  
FISCAL 2015  
ANNUAL REPORT





OFFICE OF TECHNOLOGY TRANSFER  
FISCAL 2015  
ANNUAL REPORT



## FISCAL 2015 AT A GLANCE

98

INVENTION  
DISCLOSURES

---

118

U.S. PATENT  
APPLICATIONS

---

62

U.S. PATENTS  
ISSUED

---

38

LICENSES &  
OPTIONS

---

14

STARTUPS

---

\$1,582,117

LICENSING INCOME

---

# TABLE OF CONTENTS

<b>FISCAL 2015 AT A GLANCE .....</b>	<b>01</b>
<b>WELCOME FROM THE DIRECTOR .....</b>	<b>02</b>
<b>FIVE-YEAR HISTORY .....</b>	<b>03</b>
<b>SUMMARY BY ACADEMIC UNIT .....</b>	<b>04</b>
<b>UCF INNOVATORS .....</b>	<b>06</b>
<b>COMMERCIALIZATION PARTNERS .....</b>	<b>12</b>
<b>EVENTS .....</b>	<b>13</b>
<b>PATENT AND RESEARCH FUNDING UPDATES .....</b>	<b>14</b>
<b>STARTUPS .....</b>	<b>15</b>
<b>STAFF CONTACTS .....</b>	<b>18</b>

Dear Colleagues,

I am proud to share with you the accomplishments of our team, researchers, and innovators in this Fiscal Year 2015 Annual Report. UCF passionately supports a culture of innovation, collaboration, and entrepreneurship, and you will see these themes echoed here. Our values and culture drive us to surpass each year the number of licenses and options we execute and the number of startup companies we launch to bring UCF-developed technology to market.

## INNOVATION

In the past year, many of our faculty made significant advancements in their fields through ground-breaking research and innovation. We will bring you face-to-face with just a few of them to share how they are impacting the world around us (page 8).

The process of moving discoveries from the lab to the market begins with researchers sharing their innovations with our office. These contributing faculty, students, and staff are honored with the UCF Innovators recognition (page 6). As these disclosed innovations often result in patents, UCF continues to lead in the number of issued patents (page 14).

## COLLABORATION

We work to move these discoveries to the market by seeking out industry collaborators and entrepreneurs. These commercialization partners are integral to the process of transforming discoveries made at UCF into impactful products (page 12). Our team attends events throughout the year to showcase UCF-developed technology to potential partners and to stay current on industry trends and best practices (page 13).

All of this is made possible because of the research funding our faculty receive from both government and industry sponsors (page 11).

## ENTREPRENEURSHIP

UCF is part of a wide and interconnected entrepreneurial ecosystem in Central Florida. We work with several programs within the Office of Research & Commercialization to support formation of new companies (page 17). In FY 15, more startup companies were formed to commercialized UCF technology than in any other year (page 15).

One such startup company commercializing university-developed technology was recognized by the R&D 100 Awards as having one of the most technologically significant products to enter the market (page 16).

In everything we do, we strive to support our mission to cultivate world-class research, promote technology commercialization, and foster economic growth. I hope you are inspired to partner with us to impact our community and our world by participating in the exciting new discoveries happening at UCF.



Svetlana  
Shtrom, Ph.D.,  
MBA

Director,  
Office of  
Technology  
Transfer

## FIVE-YEAR HISTORY

	FY11	FY12	FY13	FY14	FY15
Invention Disclosures	109	126	124	98	98
Licenses & Options	11	10	17	23	38
Licensing Income	\$500K	\$1M	\$800K	\$1M	\$1.5M
U.S. Patent Applications Filed	153	132	197	132	118
U.S. Patents Issued	76	74	71	57	62
Startups	2	5	3	8	14

“I hope you are inspired to partner with us to impact our community and our world by participating in the exciting new discoveries happening at UCF.”

# Summary by Academic Unit

College / Research Center / Department	Disclosures*	U.S. Patent Applications Filed	U.S. Patents Issued	Licenses & Options
<b>Totals without duplicates</b>	<b>98</b>	<b>118</b>	<b>62</b>	<b>38</b>
<b>Advanced Materials Processing &amp; Analysis Center (AMPAC)</b>	<b>8</b>	<b>8</b>	<b>5</b>	<b>5</b>
Advanced Materials Processing & Analysis Center (AMPAC)	8	9	5	5
<b>Burnett School of Biomedical Sciences</b>	<b>11</b>	<b>31</b>	<b>15</b>	<b>9</b>
Biomolecular Science Center	-	9	11	2
Medical Laboratory Sciences	-	1	-	1
Molecular Biology & Microbiology	1	7	4	4
School of Biomedical Science - Director Office	11	18	2	6
<b>Business Administration Management</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1</b>
Business Administration Management	-	-	-	1
<b>Center for Innovation and Entrepreneurship</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Center for Research in Computer Vision (CRCV)</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>
<b>College of Arts &amp; Humanities</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>
English	-	-	1	-
Florida Interactive Entertainment Academy (FIEA)	-	-	-	1
History	1	-	-	-
Human Factors	-	-	-	1
School of Visual Arts & Design (SVAD)	-	-	1	-
<b>College of Education and Human Performance</b>	<b>3</b>	<b>1</b>	<b>-</b>	<b>2</b>
Child, Family and Community Sciences	-	-	-	1
Educational & Human Sciences	2	1	-	-
School of Teaching, Learning & Leadership	1	-	-	1
<b>College of Engineering and Computer Science (CECS)</b>	<b>31</b>	<b>22</b>	<b>9</b>	<b>20</b>
Center for Advanced Turbomachinery and Energy Research (CATER)	1	1	-	-
Civil, Environmental, and Construction Engineering	7	2	-	2
Computer Science	5	8	7	18
Electrical & Computer Engineering	10	4	4	8
Materials Science & Engineering	1	1	-	-
Mechanical and Aerospace Engineering	11	10	1	1
Stormwater Management Academy	-	-	-	2



College / Research Center / Department	Disclosures*	U.S. Patent Applications Filed	U.S. Patents Issued	Licenses & Options
<b>College of Health &amp; Public Affairs (COHPA)</b>	-	1	-	0
Physical Therapy	-	1	-	-
<b>College of Medicine</b>	<b>7</b>	<b>8</b>	<b>2</b>	<b>0</b>
Faculty & Academic Affairs	3	-	-	-
Internal Medicine	1	-	-	-
Medical Education	3	6	1	-
Medicine Administration & Finance	-	1	1	-
Medicine Dean's Office	1	1	-	-
<b>College of Nursing</b>	<b>2</b>		<b>-</b>	<b>0</b>
Nursing	2	2	-	-
<b>College of Optics and Photonics</b>	<b>13</b>	<b>23</b>	<b>10</b>	<b>5</b>
CREOL	13	23	10	5
<b>College of Sciences</b>	<b>14</b>	<b>21</b>	<b>9</b>	<b>1</b>
Biology	1	2	-	-
Chemistry	5	7	5	-
Mathematics	1	2	3	-
National Center for Forensic Science	-	-	2	-
Physics	8	9	-	-
Psychology	-	1	1	1
<b>Florida Solar Energy Center (FSEC)</b>	<b>9</b>	<b>9</b>	<b>1</b>	<b>4</b>
Advance Energy Research	1	-	-	-
Buildings Research	2	-	-	-
FSEC	8	9	1	4
Solar	-	1	-	-
<b>Information Technologies and Resources</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Institute for Simulation &amp; Training (IST)</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>3</b>
IST	3	4	2	2
SREAL	-	-	-	1
<b>NanoScience Technology Center</b>	<b>16</b>	<b>29</b>	<b>18</b>	<b>6</b>
NanoScience Technology Center	16	29	18	6
<b>Office of Research &amp; Commercialization</b>	<b>2</b>	<b>1</b>	<b>-</b>	<b>0</b>
<b>Other: No Lead and/or Donated</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>18</b>

\* This list includes disclosures for copyrighted and trademarked works.

Note: Due to interdisciplinary research on campus, inventions can be associated with more than one college, research center, or department. As a result, the numbers reported in the table above may be counted multiple times, once for each associated academic unit. For the same reason, the totals for each academic unit may be smaller than the sum of their departments.



## UCF INNOVATORS

“Thank you” and “Congratulations” to all UCF faculty, students, and staff who began the commercialization process by submitting invention disclosures to our office.

All of the UCF lead and co-lead inventors who submitted disclosures are listed on the following page.



## ALL INNOVATORS (LEAD & CO-LEAD)

Ahmed Aldhahab	Deborah Altomare, Ph.D.	Jihe Zhao, Ph.D.	Michele Gill, Ph.D.	Santimukul Santra, Ph.D.
Albert Manero	Dominique Courbin	Jihua Gou, Ph.D.	Michelle Rich	Sergey Sukhov
Alexander Katsevich, Ph.D.	Donovan Lui	John Sparkman	Mohammad Modarres-Zadeh	Shafaq Chaudhry
Alicja Copik	Eduardo Mucciolo, Ph.D.	Jonathan Lee	Morayma Cubero	Shashank Saraf
Amjad Aman	Edward Dein	Jong Baik, Ph.D.	Mubarak Shah, Ph.D.	Shawn Putnam, Ph.D.
Ankur Gupta	Eileen Smith	Joshua Bazata	Muthusamy Swami, Ph.D.	Shin-Tson Wu, Ph.D.
Anne Norris, Ph.D.	Eric Cunningham	Joshua Kaufman	Nahid Mohajeri, Ph.D.	Smruti Das
Annette Khaled, Ph.D.	Eric Martin	Joshua Schmitt	Narasimha Nagaiah, Ph.D.	Soroush Mokhtari
Aristide Dogariu, Ph.D.	Eric Totten	Juin Liou, Ph.D.	Ni-Bin Chang, Ph.D.	Soroush Shabahang
Arjun Nagendran, Ph.D.	Erica Hoyt	Kaixu Bai	Nicoleta Hickman, Ph.D.	Soumen Das, Ph.D.
Arman Roohi	Evan Hale	Karin Chumbimuni Torres, Ph.D.	Oscar Santiesteban	Stephen Medeiros, Ph.D.
Ayman Abouraddy, Ph.D.	Felix Tan	Kathleen Richardson, Ph.D.	Otto Phanstiel, Ph.D.	Steven Talbert, Ph.D.
Bahaa Saleh, Ph.D.	Francisca Yonekura	Kelly Allred, Ph.D.	Nina Orlovskaya, Ph.D.	Subith Vasu Sumathi, Ph.D.
Blaire Martin	Georgiy Venus, Ph.D.	Kevin Coffey, Ph.D.	Ozlem Garibay, Ph.D.	Sudipta Seal, Ph.D.
Boris Zeldovich, Ph.D.	Greg Welch, Ph.D.	Kevin Gleason	Panit Chantharasupawong	Swadeshmukul Santra, Ph.D.
Bradley Willenberg, Ph.D.	Guifang Li, Ph.D.	Krithika Selvarajan	Parthiban Rajasekaran	Travis Janzen
Brandon Carpenter	Hae-Bum Yun, Ph.D.	Kyle Thurmond	Percy Calvo Marzal	Tyler Maxwell
Brian Anderson, Ph.D.	Haiyan Bai, Ph.D.	Lane Martin	Ratna Chakrabarti, Ph.D.	Tyler Petresky
Brian Kelly	Haroon Idrees	Laura Gonzalez, Ph.D.	Reza Abdolvand, Ph.D.	Walker Larson
Brian Mayrsohn	He Wen	Laurence Vonkalm, Ph.D.	Richard Blair, Ph.D.	Wasfy Mikhael, Ph.D.
Brian Kelly	Hediyeh Fatemi	Lei Zhai, Ph.D.	Richard Ottman	William Self, Ph.D.
Brian Mayrsohn	Imran Saleemi	Leonid Glebov, Ph.D.	Robert Igarashi, Ph.D.	William Shoulders
Carolyn Castro-Pagan	Irina Kalashnikova	Lin Yu	Robert Peale, Ph.D.	Xiufang Guo
Chandrakala Aluganti Narasimhulu	Issa Batarseh, Ph.D.	Liuliu Wu	Robert Reedy	Yating Gao
Charalambos Kaittanis, Ph.D.	Ivan Divliansky, Ph.D.	Lorelle Pye	Robin Vieira	Yi Wu
Charles Hughes, Ph.D.	J. Manuel Perez, Ph.D.	Lori Walters, Ph.D.	Romain Gaume, Ph.D.	Yier Jin, Ph.D.
Christopher Hill	Jae Kim	Lucky Tran	Ronald DeMara, Ph.D.	Yu Yuan, Ph.D.
Daniel Franklin	James Crawford	Maren Fragala, Ph.D.	Ronald Tarr	Yunjun Xu, Ph.D.
Daniel Ott, Ph.D.	James Hickman, Ph.D.	Martin Richardson, Ph.D.	Roxana Rezvani Naraghi	Zachary Little
David Amos	Jason Hochreiter	Mary Sole, Ph.D.	Saleh Naser, Ph.D.	Zachary Loparo
David Fukuda	Jay Hoffman, Ph.D.	Masa Ishigami, Ph.D.	Samantha Mensah	Zenghu Chang, Ph.D.
David Ward	Jayan Thomas, Ph.D.	Massimo Villinger	Sampath Parthasarathy, Ph.D.	ZhenYue Luo
David Ward	Jayanta Kapat, Ph.D.	Matthew McInnis		Zhilin Xie
Debashis Chanda, Ph.D.	Jeffrey Sonne	Michael Carney		Zhixin Wang
Debopam Chakrabarti, Ph.D.	Jeffrey Stout, Ph.D.	Michael O'Donnell		Zoran Pavlovic
	Jeremiah Oyer	Michael Shearer		
	Jeremy Tharkur			
	Jeremy Townsend			

# Faculty Features

Below are highlights of the stories we shared in FY 15. To read the full articles visit:  
<http://tt.research.ucf.edu/archives/>

## MANAGING STORMWATER RUNOFF IN THE CITY BEAUTIFUL MARTIN WANIELISTA

Marty Wanielista, Ph.D. and his team celebrated their success when the City of Orlando received a second \$750,000 grant to clean the waters of Lake Eola by managing stormwater runoff. Since this effort in the late 70s, the city has been able to use less pesticides and herbicides in the lake. “The water’s cleaner. That was a turning point that produced a lot of publications for us and demonstrated that what we were talking about was real, and that the solutions were real also. We used infiltrations systems, meaning we put the water into the ground before it reached the lake.



“I think the university provides an environment for folks to work in that’s very conducive to accomplishing things.”

We used filter systems, and we did some lake treatment before we turned that project back to the city.”

Wanielista has received numerous local and national awards. He credits both UCF’s early foundation of the importance of the

individual and what it stands for today as America’s Partnership University™, for his success. “We are encouraged to find partnerships and work with others,” he explains. “I think the university provides an environment for folks to work in that’s very conducive to accomplishing things.”

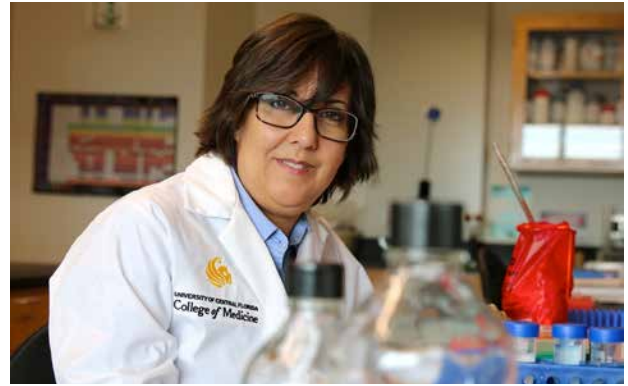
## A NEW WAY TO TARGET CANCER CELLS

ANNETTE KHALED

Annette Khaled, Ph.D. shared how her research with the peptide CT20 in advanced breast cancer is unique. Most drugs, she explains, including chemotherapeutic drugs, target many cells—they're not just going to kill your tumor cells, they're going to kill any other cell in your body. When it comes to other drugs that do target cancer cells, the problem is that they're killing the cells that are actively dividing.

“As a matter of fact, we're learning that the real cells that we need to target in cancers are not the cells that are dividing, but the parent cell, the cell that gave rise to that tumor in the first place. Those don't divide.”

What researchers are now figuring out is that the state-of-the-art treatments developed over



the course of many years are killing off the wrong cells. Though the treatments may reduce a tumor's size, making surgical removal an option, they're not getting to the true cells, the stem cells, which gave rise to the tumor. CT20 holds promise as more than just a potential treatment for patients. By understanding its target and what the peptide attaches to when it enters a cell, the discovery has opened a new area of research as a new biomarker.

## ENERGY-STORING ELECTRICAL CABLE

JAYAN THOMAS

Jayan Thomas, Ph.D. has invented a cable that transfers energy like the common copper wire in everyday electronics, but can also store energy. Thomas has turned the copper core into a dual-purpose cable by growing nanowhiskers on its surface that serve to multiply its surface area. For supercapacitors (energy storage devices akin to batteries but able to charge and discharge high amounts of power very quickly) and other energy storage devices, the surface area is extremely important.



“So without any structure, the surface area is only this much of the coil of the copper wire. But once you have all of these nanowhiskers, you have so much enhancement of the surface area that you can store the energy,” he says. The possibilities of this new cable come into play when the wire can augment or replace the need for energy storage devices. This cable can make hybrid and electric cars lighter and more

fuel-efficient; and the same concept applies on an increasingly-grand scale to electric busses, trains, airplanes, and spacecraft where reducing weight would mean less fuel with less cost and less environmental impact.

## ENERGY EFFICIENT WATER HEATERS

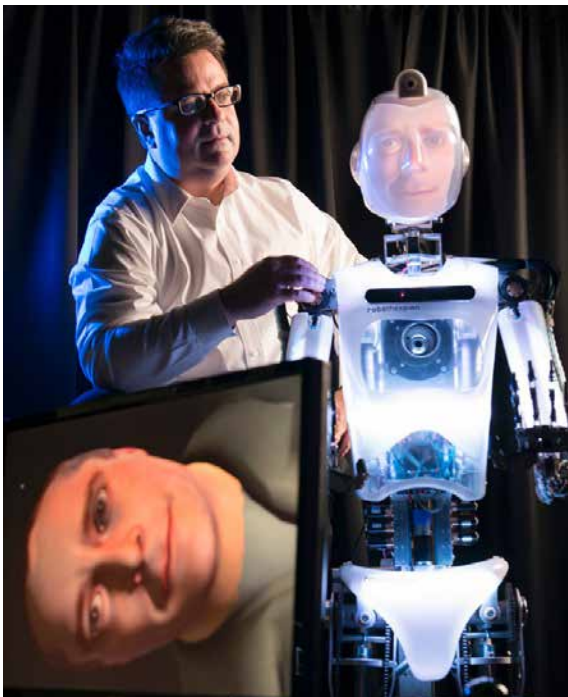
CARLOS COLON

Carlos Colon, Ph.D. began his research with a challenge from Danny Parker—his mentor and colleague whose work at the time included measuring the impact of water heater tank wraps for electric water heaters. The challenge was to extend the concept of additional insulation—an improved jacket added around a water heater to retain the heat it produced, allowing it to minimize energy consumption—for both electric and gas water heaters.

As a part of his energy research, Colon has worked on an energy-saving invention for water heaters while performing system evaluations for more than five years. His work on the project is supported by internal FSEC funding, dedicated to enhancing research activities, and grants from partners including



the Department of Energy and the Florida Natural Gas Association. From standard to high-efficiency, these heaters have been Colon's test subjects, helping him develop the new thermal insulator that conserves energy and helps consumers save money in a simple way.



## USING PHYSICAL-VIRTUAL PATIENTS TO TRAIN FUTURE MEDICAL PROFESSIONALS

GREG WELCH

In the Institute for Simulation and Training, Greg Welch, Ph.D.'s office sits across the hall from a room full of robotic human forms. Among them is a patent-pending human patient simulator designed for training future medical professionals with a more realistic, human-like experience.

The patient simulator with its rear-projected imagery on a human-shaped plastic shell can portray real-life patient scenarios, embedded on a real hospital bed. It portrays measurable vital signs, talks, and shows emotion through facial expressions. Hidden cameras can sense touch and pair with computers able to make the patient respond appropriately.

## WHY GREATNESS CANNOT BE PLANNED: THE MYTH OF THE OBJECTIVE

KEN STANLEY

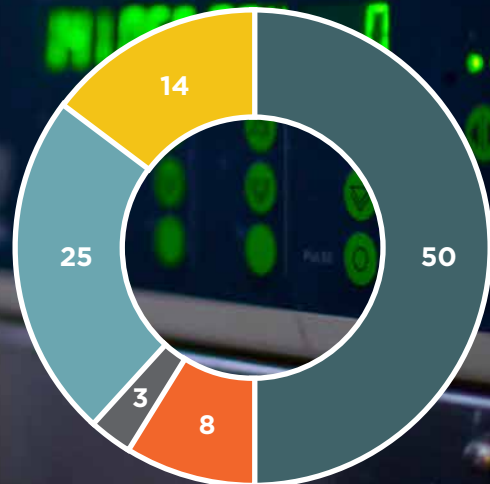
In the book, *Why Greatness Cannot Be Planned: The Myth of the Objective*, Ken Stanley, Ph.D., along with UCF graduate student Joel Lehman, details why greatness can't be planned and the myth of the objective. The book applies evolutionary computation—how computers discover and create best—to everyday life.

The book details how our preoccupation—and often obsessive preoccupation—with the almighty objective can keep us from great achievements. Greatness can surprise us when we follow promising results, expected and unexpected, instead of throwing out those that aren't in line with what we aimed for at the start.



## Innovation Funding Sources

We appreciate the support from federal, state, local, and industry research sponsors. Many discoveries that impact the way we live, work, and play are realized because of their investment. This chart represents the funding support (as a percentage of the total number of funding sources) behind the invention disclosures received by our office.



# Commercialization Partners

Our commercialization partners are integral to the process of transforming the discoveries made at UCF into products that impact the way we live, work, and play. These 31 companies, organizations, and institutions have partnered with us to both evaluate and license innovative materials, drugs, and methods in order to improve existing products or to create something new.

Startups are shown in **gold**.

---

## APECOR

---

Automated Traffic  
Enforcement Solutions, LLC

---

**Aviana Molecular  
Technologies, LLC**

---

BioCurity, Inc.

---

Central Florida Stem Cell,  
LLC

---

**Cyto-Sen Therapeutics, Inc.**

---

**Disinfectx, LLC**

---

**DTE Capital Holdings I, LLC**

---

EMD Millipore Corporation

---

**ERXIQ, Inc.**

---

**FinchBeak, LLC**

---

Fourier Electric, Inc.

---

Genisphere, LLC

---

GL Material Limited

---

Helicon Chemical Company,  
LLC

---

**Inowis Co, Ltd**

---

Intel Corporation

---

**Jose A. Calvo**

---

Kairos AR, Inc.

---

L-3 Communications  
Corporation

---

Malvern Instruments, Ltd

---

**MaxHarvest  
Microinverters, LLC**

---

Munier Jallad

---

**Mursion, Inc.**

---

**Nazim Muradov**

---

**Nizam Razack**

---

**Reamonn Soto**

---

Suntree Technologies, Inc.

---

Tekcapital, LLC

---

**Tech-E-Book.com, LLC**

---

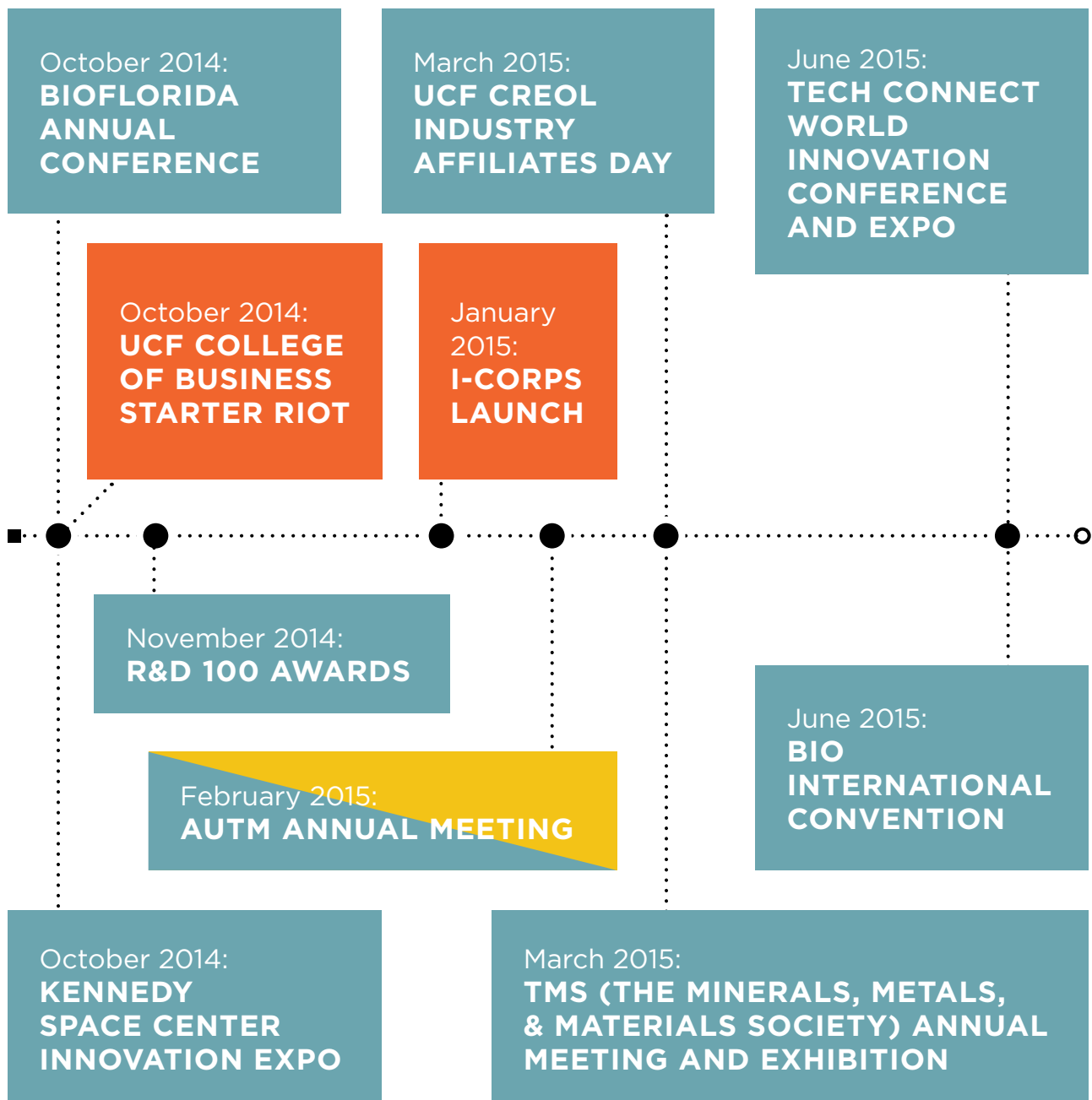
Umm AL-Qura University

---



# Events

Below are the events our team attended to promote university-developed technology, support industry partnerships, encourage entrepreneurship, and to stay current on industry trends and best practices.



■ Promote University Technology / Partnerships ■ Entrepreneurship ■ Continuing Education

# Patent and Research Funding Updates

# #30

**UCF RANKS #30 WORLDWIDE FOR U.S. PATENTS ISSUED**

Worldwide, the University of Central Florida ranked #30 on the list of top 100 universities granted U.S. utility patents in 2014, as published by the National Academy of Inventors and the Intellectual Property Owners Association. Sixty-six patents were awarded to UCF in 2014. The National Academy of Inventors also inducted UCF faculty member Marwan Simaan, Ph.D. from the College of Engineering and Computer Sciences as a fellow.

## AN INSTITUTIONAL RECORD IN RESEARCH FUNDING:

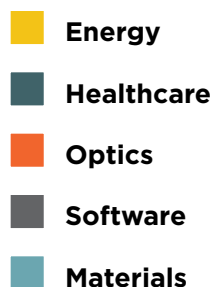
# \$133.4 million

UCF faculty and staff received a record \$133.4 million in funding to research and develop cutting-edge solutions ranging from solar panel micro-inverters and facial recognition software to biomarkers for cancer cells. Of the \$133.4M, \$72.2M was sponsored by the federal government, \$11.7M was state sponsored, and \$47.5M was industry sponsored research.

## ISSUED U.S. PATENTS BY INDUSTRY CATEGORY



UCF research and innovation impacts many industry sectors. The 62 U.S. patents issued to UCF can be grouped into five broad industry categories.



# Startup Companies

## COMPANIES THAT WERE FORMED TO COMMERCIALIZE UCF-DEVELOPED TECHNOLOGY.

Of the 14 startup companies that licensed or optioned UCF patented and patent pending technologies, five have moved to the product development and product sale stages. UCF is part of a large entrepreneurial ecosystem and startup companies are an important way that we get discoveries from the lab to the marketplace.

Startup Name and Website	Brief Description
<b>AVIANA MOLECULAR TECHNOLOGIES</b> AvianaMolecular.com	Aviana Molecular Technologies is a diagnostic company developing an innovative, highly sensitive, and user-friendly point of care diagnostic test for infections. The platform technology, developed in UCF's College of Engineering and Computer Science, will be able to detect specific infections within 15 to 20 minutes without sending the sample to a lab. Such rapid and efficient diagnosis of infections can help in the treatment and containment of diseases in both highly sophisticated and resource-limited health systems.
<b>FINCHBEAK</b> FinchBeak.com	FinchBeak connects people through gaming and creative expression. Their platform technology takes advantage of social networks to enable players to build new objects together in a fun and dynamic way. Their debut game, Petalz, is now in open Beta and uses patented artificial intelligence technology developed in UCF's College of Engineering and Computer Science that allows users the ability to cultivate a limitless variety of vibrant flowers together.
<b>MURSION</b> Mursion.com	Mursion is a virtual training platform for professionals to practice complex interpersonal skills in a low-risk environment. For example, teachers can practice engaging students in a virtual classroom with avatars so they are better prepared to respond to challenging situations in their schools. Technology developed in UCF's Institute for Simulation and Training, College of Education and Human Performance, and the College of Engineering is the core technology used to bring the avatars to life in this interactive training paradigm.
Inowis Co, Ltd (now <b>NEXMOS CO., LTD</b> )	This innovative company is working towards a method of continuously and immediately detecting biomarkers in patient tears. The core technology was developed in the Burnett School of Biomedical Sciences at UCF.
<b>TECH-E-BOOK.COM</b> Tech-E-Book.com	Tech-E-Book's eBook operating system (eBOS) customizes technical learning content for scientific, engineering, and other technical professions. To improve student outcomes, content can be adapted per user based on difficulty levels and solution methods. The eBOS looks and functions like a printed book and brings images, symbolic equations, and other instructional elements to life. The operating system uses a platform solution developed by UCF researcher and company founder, Issa Batarseh, Ph.D. in the UCF College of Engineering and Computer Science.

# Startup Recognition

## HYDROGEN DETECTING TAPE RECOGNIZED AS ONE OF THE MOST TECHNOLOGICALLY SIGNIFICANT PRODUCTS

Technology that was developed as a result of a partnership between the University of Central Florida and NASA and commercialized by a university startup company was internationally recognized as one of the most technologically significant products to enter the marketplace in 2014 by the R&D 100 Awards.

When NASA John F. Kennedy Space Center needed an easy-to-use, safe, effective, and non-powered solution to visually detect dangerous hydrogen leaks on and near the shuttle launch pad, they reached out to Ali Raissi and his team of researchers at UCF's Florida Solar Energy Center. Together, NASA KSC and FSEC designed a one-of-a-kind, tape-like solution that selectively changes color in the presence of hydrogen gas. Since

hydrogen gas is odorless and colorless, visual detection means that the leak source can now be quickly pinpointed for repair. The advanced safety solution, known as Intellipigment™, was made available to the commercial market in 2014 through HySense Technology - a company founded by Nahid Mohajeri, one of the UCF technology developers. Mohajeri worked with UCF's Office of Technology Transfer and Venture Accelerator to start and grow the company.



The recognition from the R&D 100 Awards validates the great things that can come from partnerships, collaboration, and ingenuity.



Back row L-R: Janine Captain, Luke Roberson, Gary Bokerman. Front row L-R: Nazim Muradov, Nahid Mahajeri, Martha Williams, Trent Smith, Ali Raissi

UCF contributors include: Drs. Ali Raissi, Nazim Muradov, Gary Bokerman, Nahid Majeri, and R. Paul Brooker.

NASA KSC contributors include: Drs. Luke Roberson, Martha Williams, Trent Smith, Janine Captain, LaNetra Tate, Robert "Bob" Youngquist, Bobby Devor, and Karen Thompson.

# Supporting Programs for Innovators & Entrepreneurs

As a part of the Center for Innovation & Entrepreneurship (CIE), the Office of Technology Transfer works with other entrepreneurial support units to assist startups in advancing university research. These units include,



## I-CORPS

Faculty and students selected to participate in the I-Corps program learn first-hand about entrepreneurship while they explore and validate the commercial landscape surrounding their innovation.

## BUSINESS INCUBATION PROGRAM

Since 1999, the UCF Business Incubation Program has helped hundreds of early-stage businesses develop into financially stable companies by providing the tools, training, and infrastructure for smarter and faster startup growth.

## FLORIDA ANGEL NEXUS

The Florida Angel Nexus powers angel investment groups statewide to provide investors the efficiencies of a large entity and the flexibility of niche interests. Selected entrepreneurs have access to a large base of investors with expertise in their respective industry.

## VENTURE ACCELERATOR LAB

The Venture Accelerator Lab is a place for technology entrepreneurs to transform innovative ideas and intellectual property into businesses with high growth potential. Entrepreneurs receive support evaluating the market and competitive landscape, industry trends, financial models, and more.

## GROWFL

Created in 2009 by the Florida legislature, GrowFL is an economic development program focused on assisting second-stage growth companies prosper in the state of Florida by providing strategic research, peer learning, and leadership development.

**FOR MORE INFORMATION  
ON PROGRAMS FOR  
ENTREPRENEURS,  
VISIT [CIE.UCF.EDU](http://CIE.UCF.EDU).**



**UCF**

America's Partnership University®





## OFFICE OF TECHNOLOGY TRANSFER

### University of Central Florida

University Tower, Suite 201 • 12201 Research Parkway, Orlando, FL 32826

**Phone:** 407.882.0340 • **Web:** [tt.research.ucf.edu](http://tt.research.ucf.edu)

**Twitter:** @UCFtechtransfer • **Facebook:** /UCFtechtransfer

### LEADERSHIP

#### President

John C. Hitt, Ph.D.

#### Provost and Executive Vice President

A. Dale Whittaker, Ph.D.

#### Vice President for Research & Commercialization

M.J. Soileau, Ph.D.

#### Associate Vice President for Research & Commercialization

Tom O'Neal, Ph.D.

#### Director for Technology Transfer

Svetlana Shtrom, Ph.D., M.B.A.

407.823.5150 • [Svetlana.Shtrom@ucf.edu](mailto:Svetlana.Shtrom@ucf.edu)

### FINANCE AND ACCOUNTING

#### Assistant Director

Andrea Miller

407.823.1592 • [Andrea.Miller@ucf.edu](mailto:Andrea.Miller@ucf.edu)

#### Finance and Accounting Coordinator

Ashley Conover

[Ashley.Conover@ucf.edu](mailto:Ashley.Conover@ucf.edu)

### OUTREACH

#### Research Promotions Manager

Julia Roberts

407.882.1901 • [Julia.Roberts@ucf.edu](mailto:Julia.Roberts@ucf.edu)

#### Research Promotions Coordinator

Terri Gotschall, M.S.

[Terri.Gotschall@ucf.edu](mailto:Terri.Gotschall@ucf.edu)

#### Technical Writer

Deborah Beckwin, M.F.A.

[Deborah.Beckwin@ucf.edu](mailto:Deborah.Beckwin@ucf.edu)

### PHYSICAL SCIENCES

#### Assistant Directors

Andrea Adkins, M.R.A.

407.823.0138 • [Andrea.Adkins@ucf.edu](mailto:Andrea.Adkins@ucf.edu)

John Miner, M.R.A.

407.882.1136 • [John.Miner@ucf.edu](mailto:John.Miner@ucf.edu)

#### Licensing Associate

Raju Nagaiah, Ph.D.

407.882.0593 • [Raju@ucf.edu](mailto:Raju@ucf.edu)

#### Business Development Manager

Robert Bernath, Ph.D.

407.882.0268 • [Robert.Bernath@ucf.edu](mailto:Robert.Bernath@ucf.edu)

#### Technology Managers

Sandra Jaggernauth, M.S.

[Sandra.Jaggernauth@ucf.edu](mailto:Sandra.Jaggernauth@ucf.edu)

Kristin Timpson

[Kristin.Timpson@ucf.edu](mailto:Kristin.Timpson@ucf.edu)

Kristina McFayden

[Kristina.McFayden@ucf.edu](mailto:Kristina.McFayden@ucf.edu)

#### Graduate Research Assistant

Raj Dutta

### LIFE SCIENCES

#### Sr. Licensing Associate

Brion Berman, J.D.

407.882.0342 • [Brion.Berman@ucf.edu](mailto:Brion.Berman@ucf.edu)

#### Business Development Manager

Christina Kittipatarin, Ph.D.

407.882.0591 • [Christina.Kittipatarin@ucf.edu](mailto:Christina.Kittipatarin@ucf.edu)

#### Technology Manager

Amanda Reno

[Amanda.Reno@ucf.edu](mailto:Amanda.Reno@ucf.edu)